

**Supplemental Table 1a: Predicted target genes of artificial microRNAs and expression changes in amiRNA overexpressers compared to wild-type controls by microarray analyses.**

| Identifier                      | Common name                                  | Fold reduction (gcRNA analysis) |
|---------------------------------|--|---------------------------------|
| <b>amiR-mads-1</b>              |  |                                 |
| At2g45660                       | MADS-box protein SOC1                        | 2.3                             |
| At2g13210                       | MADS-box protein ANR1                        | 2.2 (A)                         |
| At5g65050                       | MADS-box protein MAF2                        | 2.1 *                           |
| At1g77080                       | MADS-box protein MAF1                        | 1.4                             |
| At4g37940                       | MADS-box protein                             | A in wild type                  |
| At2g22630                       | MADS-box protein AGL17                       | A in wild type                  |
| At5g54060                       | MADS-box protein MAF3                        | not on ATH1 array               |
| At5g09680                       | cytochrome b5                                | not on ATH1 array               |
| <b>amiR-mads-2 (weak lines)</b> |  |                                 |
| At1g24260                       | MADS-box protein AGL9                        | 4.0†*                           |
| At1g26310                       | MADS-box protein CAL                         | 1.7*                            |
| At1g48360                       | expressed protein                            | upregulated                     |
| At1g51890                       | leucine-rich repeat protein kinase           | absent in analyzed tissue       |
| At1g69120                       | MADS-box protein APETALA1 (AP1; AGL7)        | 6.3†*                           |
| At2g03710                       | MADS-box protein AGL3                        | 1.5                             |
| At2g42830                       | MADS-box protein AGL5                        | 1.3*                            |
| At2g45650                       | MADS-box protein AGL6                        | 3.8†* (A)                       |
| At3g01990                       | ACT domain-containing protein (ACR6)         | absent in analyzed tissue       |
| At3g02310                       | MADS-box protein SEPALLATA2 (AGL4; SEP2)     | 3.7†*                           |
| At3g45360                       | hypothetical protein                         | absent in analyzed tissue       |
| At3g58780                       | MADS-box protein SHATTERPROOF 1 (AGL1; SHP1) | 1.2                             |
| At4g11880                       | MADS-box protein AGL14                       | absent in analyzed tissue       |
| At4g22950                       | MADS-box protein AGL19                       | absent in analyzed tissue       |
| At5g03060                       | expressed protein                            | 1.6                             |
| At5g15800                       | MADS-box protein SEPALLATA1 (AGL2; SEP1)     | 2.5†*                           |
| At5g20240                       | MADS-box protein PISTILLATA (PI)             | 1.2                             |
| At5g60910                       | MADS-box protein FRUITFULL (FUL; AGL8)       | 1.5                             |
| At4g04394                       | hypothetical protein                         | not on ATH1 array               |

| <b>amiR-mads-2 (strong lines)</b> |  |                           |
|-----------------------------------|--|---------------------------|
| At1g24260                         | MADS-box protein AGL9                        | 10.6†*                    |
| At1g26310                         | MADS-box protein CAL                         | 1.2                       |
| At1g48360                         | expressed protein                            | upregulated               |
| At1g51890                         | leucine-rich repeat protein kinase           | absent in analyzed tissue |
| At1g69120                         | MADS-box protein APETALA1 (AP1; AGL7)        | 6.5†*                     |
| At2g03710                         | MADS-box protein AGL3                        | 1.8†                      |
| At2g42830                         | MADS-box protein AGL5                        | 3.9†*                     |
| At2g45650                         | MADS-box protein AGL6                        | 5.1†* (A)                 |
| At3g01990                         | ACT domain-containing protein (ACR6)         | absent in analyzed tissue |
| At3g02310                         | MADS-box protein SEPALLATA2 (AGL4; SEP2)     | 7.3†*                     |
| At3g45360                         | hypothetical protein                         | absent in analyzed tissue |
| At3g58780                         | MADS-box protein SHATTERPROOF 1 (AGL1; SHP1) | 2.5†                      |
| At4g11880                         | MADS-box protein AGL14                       | absent in analyzed tissue |
| At4g22950                         | MADS-box protein AGL19                       | absent in analyzed tissue |
| At5g03060                         | expressed protein                            | 1.4                       |
| At5g15800                         | MADS-box protein SEPALLATA1 (AGL2; SEP1)     | 2.9 *                     |
| At5g20240                         | MADS-box protein PISTILLATA (PI)             | 2.0†*                     |
| At5g60910                         | MADS-box protein FRUITFULL (FUL; AGL8)       | 1.3                       |
| At4g04394                         | hypothetical protein                         | not on ATH1 array         |
| <b>amiR-lfy-1</b>                 |  |                           |
| At5g61850                         | LFY  | 4.6†*                     |
| <b>amiR-white-1</b>               |  |                           |
| At3g59400                         | GENOMES UNCOUPLED 4 (GUN4)                   | 5.7†                      |
| <b>amiR-white-2</b>               |  |                           |
| At3g59400                         | GENOMES UNCOUPLED 4 (GUN4)                   | 20.5† (A)                 |

A: absent according to Affymetrix GCOS algorithm

†: significantly changed (logit-T,  $p < 0.025$ )

\*significant expression change according to Bayes  $B$ -statistic with >98% probability (assuming 1% of differentially expressed genes) (Smyth, G.K., Michaud, J., and Scott, H.S. (2005). Use of within-array replicate spots for assessing differential expression in microarray experiments. *Bioinformatics* 21, 2067-2075.).

**Supplemental Table 1b: Predicted target genes of artificial microRNAs and expression changes in amiRNA overexpressers compared to wild-type controls by qualitative RT-PCR.**

| Identifier           | Common name                    | Reduction    |
|----------------------|--------------------------------|--------------|
| <b>amiR-lfy-2</b>    |                                |              |
| At5g61850            | LFY                            | not analyzed |
| <b>amiR-ft-1</b>     |                                |              |
| At1g65480            | FLOWERING LOCUS T (FT)         | yes          |
| <b>amiR-ft-2</b>     |                                |              |
| At1g65480            | FLOWERING LOCUS T (FT)         | yes          |
| <b>amiR-trichome</b> |                                |              |
| At5g53200            | TRIPTYCHON (TRY)               | not analyzed |
| At2g46410            | CAPRICE (CPC)                  | not analyzed |
| At2g30420            | ENHANCER OF TRY AND CPC (ETC2) | not analyzed |
| <b>amiR-yabby-1</b>  |                                |              |
| At1g23420            | INNER NO OUTER (INO)           | yes          |
| At4g00180            | YABBY3 (YAB3)                  | yes          |
| At3g07060            | hypothetical protein           | not analyzed |
| At5g11950            | put. lysine decarboxylase      | not analyzed |
| At5g02910            | F-box protein                  | not analyzed |
| <b>amiR-yabby-2</b>  |                                |              |
| At1g69180            | CRABS CLAW (CRC)               | no           |